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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,823	09/30/2003	C. Brian Atkins	200308889-1	6652

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FORT COLLINS, CO 80527-2400

EXAMINER

AUGUSTINE, NICHOLAS

ART UNIT	PAPER NUMBER
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2179

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/675,823	Applicant(s) ATKINS, C. BRIAN	
	Examiner Nicholas Augustine	Art Unit 2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- A. This action is in response to the following communications: Amendment filed 5/22/2007. This action is made **Final**.
- B. Claims 1-21 remains pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Geigel et al (US 20020122067 A1).

As for independent claims 1,8 and 15, Geigel teaches methods for arranging a set of objects within an area (par.57), comprising:

- Initiating a first current binary tree comprising a leaf node (par.89) associating a first object selected from the set with the leaf node (par.69, last line and lines 1-5);
- Establishing candidate binary trees, wherein each of the candidate binary trees comprises the current binary tree and a respective leaf node associated with

another object selected from the set, and locations of the leaf nodes within each of the candidate binary trees correspond to relative positions of the associated objects within the area (par.57-59 and 69-70; fig.3, 8-9);

- Computing a respective score for each of the candidate binary trees selecting one of the candidate binary trees as the current binary tree based on the computed score (par.145-150);
- Repeating the establishing, the computing, and the selecting until the current binary tree includes all the objects in the set (par.64, line 3; a plurality of images to be placed in a file explains the repeated step nature of b-d repeated until done);
- After the repeating, arranging the objects within the area in accordance with the locations of the leaf nodes within the candidate binary tree (fig.3, 4,9 and par.77-79).

As for dependent claims 2-7,9-14 and 16-21, Geigel teaches the methods of claims 1,8 and 15, wherein the binary tree comprises:

- Claims 2,9 and 16
- At least one interior node (fig.3; wherein depicted are nodes inside and outside);
- And at least one leaf node emanating from the interior node (fig.3; wherein depicted as shown item 88 as interior node that has emanating a leaf);

- Wherein each subtree of the current binary tree comprises a respective position within the binary tree and all interior nodes and leaf nodes emanating from the respective position (fig.3, 4,8);
- And wherein each subtree of each of the candidate binary tree comprises a respective location (x/y spot on page) within the candidate binary tree and all interior nodes and leaf nodes emanating from the respective location (fig.3, 4,8).
- Claims 3,10 and 17
- Removing a subtree of the current binary tree associated with a selected position (fig.3, 4);
- Inserting a new interior node into the current binary tree at the selected position (fig.3-6);
- Associating either a horizontal or a vertical partition (cut) of the area with the new interior node (par.57, lines 5-9);
- Inserting into the binary tree a new leaf node emanating from the new interior node (fig.3 and 9);
- Associating the new leaf node with the other object selected from the set (fig.8, 9);
- Inserting the previously removed subtree back into the binary tree at the new interior node (fig.4 and corresponding text).
- Claims 4,11 and 18
- A leaf node in the current binary tree (figure 8);

- An interior node in the current binary tree (88);
- Claims 5,12 and 19
- For each of the interior nodes in the candidate binary tree, characterizing a respective bounding box for the objects included in the subtree rooted in the interior node (fig.35, par.57, lines 2-13);
- For each of the objects, allocating a respective region of the area in accordance with the respective bounding box for each object (fig.35, par.59, lines 1-4 and par.70, lines 1-5).
- Claims 6,13 and 20
- Determining respective fractions of the areas occupied by the objects in each of the candidate binary trees (par.58, lines 2-9),
- The selecting comprises selecting as the candidate binary tree having a greatest one of the fractions of the area occupied by the objects in the candidate binary tree (par.71, lines 1-8 and par.86, lines 11-17)).
- Claims 7, 14 and 21
- The computing comprises assessing minimum and maximum object size values for all the objects in the area (par.90, lines 1-5 and par.91, lines 2-7).
- The selecting comprises selecting as the current binary tree the candidate binary tree having a greatest respective ratio of minimum area object size value divided by maximum area object size value (par.110, lines 5-12).

(Note:) It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In *re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments filed 5/22/2007 have been fully considered but they are not persuasive.

I.A *Applicant argues that neither the page creator module nor the image placement module, however, establishes candidate binary trees in which the "locations of the leaf nodes within each of the candidate binary trees correspond to relative positions of the associated objects within the area as recited by claim 1.*

I.R Examiner does not agree, the term candidate binary tree is only merely describing is known in the art as a regularly binary tree, being that is the term candidate only yields to the known tree of insertion/ use of that tree, by definition of candidate. Also the leaf nodes of each binary tree correspond to relative positions as described in paragraphs 62,69-73,89,112,128 and 152.

2.A *Applicant argues that the locations of these positioning parameters within the array shown in figure 17 do not correspond to relative positions of the associated images within the area within which the images will be arranged.*

2.R Examiner does not agree and notes to the first argument that cites material on describing relative positioning.

3.A. *Applicant argues on bottom of page 11 and top of page 12 the newly added claim language of claim 1.*

3.R Examiner does not agree and notes attention to applicant to the new analysis of claim 1 above. Examiner still believes that the current condition of the claim language does not over come the Geigel reference provided.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

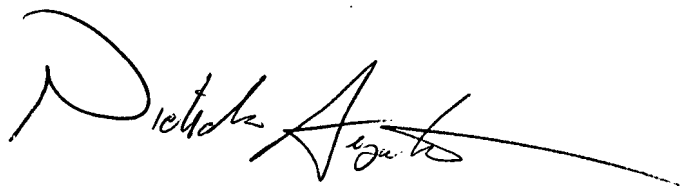
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Augustine whose telephone number is 571-270-1056. The examiner can normally be reached on Monday - Friday: 7:30- 5:00.

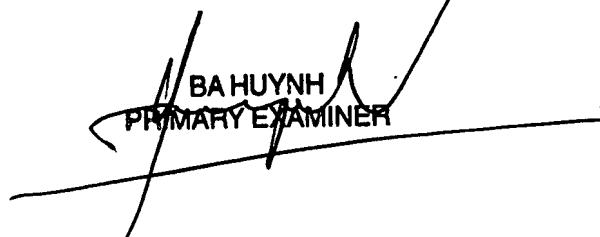
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nicholas Augustine
Examiner
AU: 2179

N. Augustine
August 3, 2007



BA HUYNH
PRIMARY EXAMINER